In the Claims

1. (Currently Amended) A method of manufacturing a collimator mandrel for a CT imaging system, the method comprising the steps of:

forming a core of base material, wherein the core includes a cylindrical rod; and

applying a tapered layer of x-ray attenuating material to the core, wherein the step of applying includes:

placing a cast circumferentially around the core, wherein the cast has an inner surface creating varying degrees of thickness circumferentially around the core; and

placing the cast circumferentially around the core such that a void of varying thickness is created between an outer surface of the core and an inner surface of the cast and filling the void with the attenuating material and allowing the attenuating material to cure and then removing the cast.

2-5. (Canceled)

6. (Original) The method of claim 1 wherein the attenuating material is at least one of an attenuating alloy and an attenuating epoxy.

7. (Original) The method of claim 1 wherein the attenuating material is tungsten.

8. (Original) The method of claim 7 further comprising the step of affixing a thin layer of tungsten to the core and then machining the thin layer to have a varying thickness.

9. (Canceled)

10. (Original) The method of claim 1 wherein the base material includes stainless steel.

11. (Canceled)

12. (Original) A CT collimator mandrel comprising a solid cylindrical rod positioned within a layer of attenuating material, the mandrel formed by:

shaping a bulk of supporting material into a core;

positioning the core in a cast such that a non-uniform void is created between an outer surface of the core and an inner surface of the cast;

placing attenuating material into the void; and

removing the cast upon curing of the attenuating material.

13. (Original) The CT collimator mandrel of claim 12 further formed by machining the cured attenuating material to create a tapered attenuating material layer.

14. (Original) The CT collimator mandrel of claim 12 wherein the attenuating material extends circumferentially around an entire length of the core.

15. (Original) The CT collimator mandrel of claim 12 wherein the supporting material includes stainless steel and the attenuating material includes tungsten.

16. (Previously Presented) A process of constructing a mandrel for a CT imaging system, the process comprising the steps of:

forming a solid cylindrical rod of a first material;

depositing a layer of a second material designed to substantially block x-rays on the cylindrical rod; and

affixing a pivot stud to each end of the cylindrical rod to support connection of the rod to an eccentrics assembly.

17. (Original) The process of claim 16 wherein the first material includes stainless steel.

18. (Original) The process of claim 16 wherein the second material includes tungsten.

19. (Original) The process of claim 18 further comprising the step of machining the layer of second material to be tapered circumferentially around the rod.

20. (Canceled)

21. (Previously Presented) A method of manufacturing a collimator mandrel for a CT imaging system, the method comprising the steps of:

forming a core of base material; and

applying a tapered layer of attenuating material to the core, wherein the step of applying includes:

placing a cast circumferentially around the core, wherein the cast has an inner surface creating varying degrees of thickness circumferentially around the core;

placing the cast circumferentially around the core such that a void of varying thickness is created between an outer surface of the core and an inner surface of the cast;

filling the void with the attenuating material; and

allowing the attenuating material to cure and then removing the cast.

22. (Previously Presented) The method of claim 21 wherein the attenuating material is at least one of an attenuating alloy and an attenuating epoxy.

23. (Previously Presented) The method of claim 21 wherein the attenuating material is tungsten.

24. (Previously Presented) The method of claim 21 wherein the core includes a cylindrical rod.

25. (Previously Presented) The method of claim 21 wherein the base material includes stainless steel.